

L Number	Hits	Search Text	DB	Time stamp
1	214	209/935	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/15 18:13
2	0	us2002/0153227	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/15 18:14
3	1	"20020153227"	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/15 18:24
5	13	209/914 and vibratory	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/15 18:25
4	244	209/914	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/15 18:28


-	106	("6292830" "4519600" "5542547" "5612863" "5720410" "6019364" "6265548" "6287765" "6355473" "6179129" "4269401" "4308960" "4328963" "4332377" "4336768" "4387639" "4455518" "4516264" "4548402" "4553312" "4775051" "4848805" "4880121" "4892509" "5000325" "5217105" "5333715" "5341369" "5421137" "5579922" "5713454" "5750908" "5775475" "5819909" "5819906" "5833114" "5845789" "5881895" "5959868" "5993630" "6059091" "6059091" "6193074" "6253901" "6287832" "6303929" "6338484" "6384593" "6433294" "6436314").pn.	USPAT; EPO; JPO; DERWENT; USOCR	2003/06/15 22:26
---	-----	--	--	---------------------

-	223	209/920	USPAT; EPO; JPO; DERWENT; USOCR	2003/06/15 23:06
-	2	209/920 and mobile	USPAT; EPO; JPO; DERWENT; USOCR	2003/06/15 23:09
-	3	209/920 and portable	USPAT; EPO; JPO; DERWENT; USOCR	2003/06/15 23:10
-	365	198/391	USPAT; EPO; JPO; DERWENT; USOCR	2003/06/15 23:10
-	6	198/391 and (mobile or portable)	USPAT; EPO; JPO; DERWENT; USOCR	2003/06/15 23:15
-	19	("2924713" | "2985280" | "3194392" | "3474890" | "3521735" | "3658172" | "3746211" | "3747738" | "4148389" | "4156494" | "4220257" | "4236302" | "4384535" | "4436197" | "4450948" | "4453626" | "4462508" | "5526917" | "5757092").PN.	USPAT	2003/06/15 23:14
-	75618	209/\$.ccls.	USPAT; EPO; JPO; DERWENT; USOCR	2003/06/15 23:16
-	2341	209/\$.ccls. and vibratory	USPAT; EPO; JPO; DERWENT; USOCR	2003/06/15 23:16
-	40	209/\$.ccls. and (vibratory adj bowl)	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/13 17:53
-	0	(interchangable) near (vibratory adj bowl)	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/13 17:53
-	0	(interchangable) adj (vibratory adj bowl)	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/13 17:55
-	0	(interchangeable) adj (vibratory adj bowl)	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/13 17:55

-	670	vibratory adj bowl	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/13 17:55
-	25	(vibratory adj bowl) and replaceable	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/13 18:04
-	224	209/920	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/13 18:19
-	226469	29/\$.ccls.	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/13 18:19
-	145	29/\$.ccls. and (vibratory adj bowl)	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/13 18:19
-	13	(29/\$.ccls. and (vibratory adj bowl)) and (plural or multiple adj supply)	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/13 18:20
-	0	"profil verbindungstechnik" and vibratory	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 13:50
-	121	"profil verbindungstechnik"	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 14:00
-	3811	vibratory and rail	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 14:01
-	161	(vibratory and rail) and (vibratory adj (bowl or bin))	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 14:02
-	168	(vibratory and rail) and (vibratory adj (bowl or bin or container or receptacle))	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 14:06
-	829	(vibratory adj (bowl or bin or container or receptacle or receiver or holder or repository or reservoir or store or basin or box or bucket))	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 14:08
-	2931	(vibratory adj (bowl or bin or container or receptacle or receiver or holder or repository or reservoir or store or basin or box or bucket or feeder))	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 14:08

-	175	(vibratory and rail) and (vibratory adj (bowl or bin or container or receptacle or receiver or holder or repository or reservoir or store or basin or box or bucket))	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 18:17
-	37075	238/\$.ccls.	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 18:18
-	49134	246/\$.ccls.	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 18:18
-	34197	104/\$.ccls.	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 18:18
-	8136	305/\$.ccls.	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 18:18
-	63506	105/\$.ccls.	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 18:19
-	9228	410/\$.ccls.	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 18:19
-	157201	246/\$.ccls. or 104/\$.ccls. or 305/\$.ccls. or 105/\$.ccls. or 410/\$.ccls.	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 18:19
-	518	(246/\$.ccls. or 104/\$.ccls. or 305/\$.ccls. or 105/\$.ccls. or 410/\$.ccls.) and vibratory	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 18:48
-	418	((246/\$.ccls. or 104/\$.ccls. or 305/\$.ccls. or 105/\$.ccls. or 410/\$.ccls.) and vibratory) not (vibratory adj tamping)	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 18:53
-	344	239/659	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 18:53
-	143	239/144	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 18:53
-	5	239/659 and 239/144	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 18:53

-	482	239/659 or 239/144	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 18:53
-	0	(239/659 or 239/144) and (vibratory adj bowl)	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 18:54
-	92426	198/\$.ccls.	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 18:54
-	171	198/\$.ccls. and (vibratory adj bowl)	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 19:04
-	108683	414/\$.ccls.	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 19:04
-	23	414/\$.ccls. and (vibratory adj bowl)	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 19:07
-	75813	209/\$.ccls.	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 19:08
-	57	209/\$.ccls. and (vibratory adj (bowl or bin or container or receptacle or receiver or holder or repository or reservoir or store or basin or box or bucket))	USPAT; EPO; JPO; DERWENT; USOCR	2003/10/14 19:08


[Patent Intranet > Classification Home Page > Classification Search Page >](#)
[Classification Schedule](#) [Site Feedback](#)
[Search Classification Data](#) | [Class Numbers & Titles](#) | [Class Numbers](#) | [USPC Index](#) | [International](#) | [HELP](#) | [Employee by Name](#) | [Employees by Org](#)
[<-Previous Page](#)

Class 209 CLASSIFYING, SEPARATING, AND ASSORTING SOLIDS

[Click here to view a PDF version of this file.](#)

- 1** MISCELLANEOUS
- 2** SPECIAL APPLICATIONS
- 3** PRECEDENT PREPARATION OF ITEMS OR MATERIALS TO FACILITATE SEPARATION
 - 3.1** . Sorting special items or sorting by methods and apparatus includible in subclasses 509 through 707
 - 3.2** .. Condition responsive sensor controlling preparation
 - 3.3** .. Marking or tagging item
 - 4** . Selective differentiation
 - 5** .. Deflocculation and flocculation
 - 7** .. Form
 - 8** .. Magnetizing and demagnetizing
 - 9** .. Surface
- 10** TREATMENT SUBSEQUENT
- 11** WITH HEAT TREATMENT
- 12.1** PLURAL, DIVERSE SEPARATING OPERATIONS
 - 12.2** . Including electrostatic
 - 13** . Aqueous suspension, sifting, and stratifying
 - 14** . Mercurial adhesion, sifting, and stratifying
 - 19** . Gaseous suspension, sifting, and stratifying
 - 15** . Mercurial suspension or adhesion and fluid suspension
 - 16** .. Aqueous suspension
 - 17** . Aqueous suspension and sifting
 - 18** . Aqueous suspension and stratifying
 - 20** . Gaseous suspension and stratifying
 - 21** . Gaseous suspension and sifting
 - 22** .. Coincident
 - 23** ... With deposition
 - 24** ... Horizontal current
 - 25** With deposition
 - 26** ... Inclined current
 - 27** With deposition
 - 28** ... Vertical current
 - 29** With deposition
 - 30** .. Successive
 - 31** ... With deposition
 - 32** ... Horizontal current
 - 33** With deposition
 - 34** ... Inclined current
 - 35** With deposition
 - 36** ... Vertical current
 - 37** With deposition
 - 38** . Magnetic and sifting
 - 39** . Magnetic and fluid suspension
 - 40** . Magnetic and stratifying
 - 41** . Mercurial suspension and mercurial adhesion
 - 42** . Mercurial adhesion or suspension and sifting

434444.144.244.344.4**45**46474849505152535455565758596061626364656667686970**127.1**127.2127.3127.4128129130131**509**510511512513514515516517518519520521

. Mercurial adhesion or suspension and stratifying

. Sifting and stratifying

. Including sorting of special items or sorting by methods or apparatus includible in subclasses 509 through 707

.. Fluid jet

.. Drum-type sifter

.. Manual sorting

ADHESION

. With selective differentiation

.. Coating

... Mercurial (i.e., amalgamators)

. Coated surface or mass

.. Mercurial

... Applying or removing coat

... Contact elements

.... Agitators

.... Baffles

.... Disks and spheres

.... Liners

.... Percolators

... Receivers

... Rotating

.... Centrifugal

.... Cylinders, external

.... Cylinders, internal

.... Endless belt

... Shaking

... With agitating or conveying

.... Fluid

.... With rubbing

.... Impact

.... Reciprocating

.... Rotating

ELECTROSTATIC

. With heating of particles

. With vibrating trough charging of particles

. Free fall type particle charging

. Attracting and repelling

. Attracting

. Repelling

. Stratifying

SORTING SPECIAL ITEMS, AND CERTAIN METHODS AND APPARATUS (E.G., POCKET TYPE AND LIGHT RESPONSIVE SORTING, ETC.) FOR SORTING ANY ITEMS

. Sorting eggs or components thereof

.. Radiant energy sensing means controls separating means

.. By weight

... Sensing egg weight and controlling separating means in accordance therewith

... Orbiting or rotating carrier responsive to egg weight

.... Carrier tilted by means (e.g., trip, cam, etc.) adjacent travel path when depressed to particular elevation

... Same eggs successively placed on means (e.g., balance beams, etc.) responsive to different weights

. Sorting lumber, logs, pipes, rails, or like items

.. Condition responsive means controls separating means

... Relatively movable calipers closed against item

... Sensor responsive to item contact

.. With endless conveyor belt

- 522 . Sorting bottles, ampoules, jars, drinking vessels, or like ceramic or glass containers
- 523 .. Condition responsive means controls separating means
- 524 ... Sensing radiant energy reflected, absorbed, emitted, or obstructed by item or adjunct (e.g., label, cap, etc.) thereof
- 525 Sizing with visible light beam
- 526 Detecting internal flaw (e.g., air bubble, crack, etc.) in wall of item
- 527 By means of radio frequency radiation
- 528 Detecting flaw in, or absence or misplacement of, label on item
- 529 ... Sensing position, shape, or presence of closure
- 530 ... Sensor contacts item
- 531 Gauge
- 532 Plug
- 533 Relatively movable calipers closed against item
- 534 . Sorting paper money
- 535 . Sorting cigarettes, cigars, or packages thereof
- 536 .. Sensing radiant energy reflected, absorbed, emitted, or obstructed by item or adjunct thereof
- 537 .. Fluid or vacuum sensing means controls separating means
- 538 . Nonconveying driven means for turning item at separating or inspecting station to facilitate sorting
- 539 . Traveling items shifted to form line, or into end or edge alignment, to facilitate inspection or separation
- 540 . Traveling item turned to predetermined position
- 541 .. Plural orienting means
- 542 .. Reciprocable or pivotable orienting means
- 543 .. Fluid orienting means
- 544 .. Means orienting item moved by gravity
- 545 .. Driven orienting means
- 546 . Signalling, indicating, or display means
- 547 .. Indicia associated with cards, file folders, or like coded items, or with sorting means therefor (including cards, per se, with edge coding)
- 548 .. Operation of apparatus stopped
- 549 .. Signal lamp or audible alarm
- 550 .. Indicating scale
- 551 .. Item counter
- 552 . Condition responsive means controls separating means
- 553 .. Cards or sheets separated by rotatable suction drum
- 554 . Sorting cards or sheets coded by perforation
- 555 .. Diverse
- 556 ... Diverse electrical tests
- 557 ... Including noncondition-responsive separating means
- 558 ... At single station
- 559 .. Means (e.g., information storing device, timer, delaying relay, etc.) delaying actuation of separating means
- 560 ... Mechanical
- 561 Rotatable pin carrier
- 562 ... Magnetic
- 563 Electrical
- 564 Electronic
- 565 Shift register
- 566 Controlled by article
- 567 .. Magnetic test sensing property of item
- 568 ... Magnetic core tested
- 569 ... Reading indicia
- 570 ... Permeability
- 571 .. Electrical test sensing property of item
- 572 ... Detecting flaw in dielectric
- 573 ... Electrical component tested
- 574 Resistor or capacitor

class 342

ernest kardon

- 575 Lamp or battery
- 576 .. Sensing radiant energy reflected, absorbed, emitted, or obstructed by item or adjunct thereof
- 577 ... Infrared, visible light, or ultraviolet
- 578 Ultraviolet
- 579 Laser
- 580 Color detection
- 581 Intensity
- 582 Measuring ratio of sensed intensities
- 583 Reading indicia
- 584 On mail
- 585 Mirror or prism in optical path
- 586 Sizing
- 587 Reflected from item
- 588 Transmitted through item
- 589 ... X-ray or gamma ray
- 590 ... Sonic or supersonic energy
- 591 .. Sensing by applying fluid or vacuum to item
- 592 .. Responsive to weight of item
- 593 ... Detecting movement of item support with electrical sensor
- 594 Photodetector
- 595 Switch
- 596 ... Pusher or deflector controls movement of item on separate support
- 597 .. Sensing position, shape, or presence of closure or end wall on container
- 598 .. Sensing contour of item having no missing parts
- 599 .. Sorting items according to susceptibility to deform (e.g., malleability, hardness, compressibility, etc.), rupture, or vibrate
- 600 .. Sensor contacts item
- 601 ... Gauge
- 602 Relatively movable calipers closed against item
- 603 Sheet gauging
- 604 Sensor generates electrical signal
- 605 Items separated into at least three classes
- 606 . Separating means
- 607 .. Corn silk separator
- 608 .. Sorting items according to edge coding
- 609 ... Magnet attracts or repels item
- 610 ... Keyboard control
- 611 ... Cards, file folders, or like items sorted by means of necked-down notch thereon
- 612 ... Cards, file folders, or like items alternatively having notch or hole at particular location thereon
- 613 .. Sorting cards, file folders, or like items having coded sorting holes
- 614 .. Hand supported implements
- 615 .. Brush, flail, or rake used other than as one of opposed pair of gauge elements to separate, or to facilitate separation of, items
- 616 ... Rotatable
- 617 .. Item gripped between opposed elements
- 618 ... Rollers
- 619 .. Gauge enters hole in item
- 620 .. Gauging passage between orbiting belts
- 621 .. Rotating or orbiting carrier having expandable gauging passage passing items of different size at different points along carrier travel path
- 622 ... Belt
- 623 With gauging pocket for individual item
- 624 Pocket formed by rollers, disks, or wheels spaced transversely of belt or by contoured transverse roller, bar, or slat
- 625 .. Gauge with clearer other than continuous feeder
- 626 ... Spacing between gauge elements increased to free item
- 627 ... Rotatable or pivotable clearer

198/453
198/
done 4/73

- 628 ... Stationary clearer
- 629 .. Diverse
- 630 ... Including means supporting items for manual sorting or allowing operator to control item destination
- 631 ... Including separation effected by items following different trajectories through space
- 632 ... Including separation effected by item of particular size passing through gauging passage between separate elements
- 633 Stationary elements
- 634 ... Including separation effected by item of particular size passing through gauging aperture in wall (e.g., perforated panel, etc.)
- 635 ... Including separation effected by different items traveling in different directions while contacting a surface
- 636 .. Magnet attracts or repels item
- 637 .. Items thrown or falling through space strike surface and only some rebound
- 638 .. Items separate by following different trajectories through space
- 639 ... Fluid jet changes trajectory of item
- 640 ... Items thrown or falling through space strike surface and rebound with different trajectories
- 641 ... Takeoff ramp adjustable to different angular positions relative to horizontal plane
- 642 ... Thrower
- 643 .. Suction
- 644 .. Fluid jet
- 645 .. Sorting items by weight
- 646 ... Orbiting or rotating carrier responsive to item weight
- 647 Counterbalance on balance beam moved until beam tilts to item discharging position
- 648 Carrier tilted by means (e.g., trip, cam, etc.) adjacent travel path when depressed to particular elevation
- 649 ... Same items successively placed on means (e.g., balance beams, etc.) responsive to different weights
- 650 ... Item support swings about fixed horizontal axis to discharge at different vertically spaced points
- 651 .. Pusher moving item on separate surface
- 652 ... Pivotal
- 653 ... Reciprocable
- 654 ... Rotatable
- 655 .. Gravity-type conveyor (e.g., chute, etc.) movable between different discharge positions
- 656 .. Movement of items along different paths controlled by passive deflector
- 657 ... Deflector movable into and out of path of item
- 658 ... Deflector spaced above conveying means to pass item of particular size thereunder
- 659 .. Sorting items by size
- 660 ... Item of particular size passed through gauging passage between separate elements
- 661 Gauging passage between stationary element (e.g., bar, slat, etc.) and orbiting belt
- 662 Gauging passage between stationary element (e.g., bar, slat, etc.) and roller
- 663 Gauging passage between orbiting belt and roller or wheel
- 664 Gauging passage between elements of rotating cage
- 665 Gauging passage between elements of orbiting belt
- 666 Item moves along curved gauging passage
- 667 Gauging passage between rotatable elements
- 668 Element adjustable to change width of gauging passage
- 669 Helical roller
- 670 Items move longitudinally of gauging passage varying in width along length thereof
- 671 Spindle or roller having projecting elements spaced circumferentially thereof
- 672 Spindle or roller having axially spaced, flat-sided circumferential elements (e.g., flanges, disks, wheels, etc.) projecting therefrom
- 673 Cylindrical rollers

- 674 Gauging passage between moving elements (e.g., vibrating bars, slats, etc.)
- 675 Gauging passage between stationary elements (e.g., bars, slats, etc.)
- 676 Element adjustable to change width of gauging passage
- 677 Items move longitudinally of elongate elements
- 678 With means moving, or regulating movement of, items along elements
- 679 Width of gauging passage varies
- 680 ... Item of particular size passed through gauging aperture in wall (e.g., perforated panel, etc.)
- 681 Aperture in orbiting belt
- 682 Aperture in chute or trough
- 683 Aperture in circumferential wall of hollow body (e.g., tube, etc.) rotatable about longitudinal axis thereof
- 684 ... Item of particular size or shape enters pocket
- 685 On orbiting belt
- 686 On exterior of drumlike body (e.g., roller, etc.) rotatable about longitudinal axis thereof
- 687 On interior of hollow drumlike body (e.g., tube, etc.) rotatable about longitudinal axis thereof
- 688 .. Means pierces, or enters preformed hole in, item
- 689 .. Items separate by traveling in different directions while contacting drumlike body (e.g., roller, hollow cylinder, etc.) turning about longitudinal axis thereof
- 690 ... Items travel circumferentially and longitudinally of turning axis
- 691 .. Items separate by traveling in different directions while contacting same inclined surface of moving support
- 692 ... Items contact inclined reach of orbiting belt
- 693 Item separating reach inclined only in direction of belt movement
- 694 ... Translating support
- 695 .. Items separate by traveling in different directions while contacting same horizontal surface of moving support
- 696 .. Items separate by traveling in different directions while contacting same inclined surface of static support
- 697 ... Helical ramp
- 698 .. Means movable between horizontal item-supporting position and gravity discharge position
- 699 .. Sorting items according to susceptibility to deform (e.g., malleability, hardness, compressibility, etc.), rupture, or vibrate
- 700 .. Sorting items according to roughness or adhesiveness
- 701 .. Item turned while traveling
- 702 .. Manual sorting
- 703 ... Item supported on table or chute
- 704 Rotated about vertical axis
- 705 ... Item supported on orbiting or rotating carrier
- 706 .. Specific compartment of receptacle brought into alignment with feed means by operator
- 707 .. Items separated by tipping, rolling, or sliding off support under force of gravity
- 132** **FLUID SUSPENSION**
- 133 . Gaseous
- 134 .. Horizontal current
- 135 ... With deposition
- 136 .. Inclined current
- 137 ... With deposition
- 138 .. Vertical current
- 139.1 ... With deposition
- 139.2 With centrifugal feed distribution
- 140 ... Expanding
- 141 With deposition
- 142 .. Grading deposition
- 143 ... With deflection
- 710 Plural individual interconnected separation means having swirling currents

<u>711</u>	..... Fluidically induced, oppositely directed axial flows only (e.g., multiple cyclone arrangements, etc.)
<u>712</u>	..... Serial arrangement
<u>713</u>	.... Mechanically induced swirling
<u>714</u>	..... Eduction rotor
<u>715</u>	.... Fluidically induced, oppositely directed axial flows (e.g., reverse free-vortexes formed, cyclone, etc.)
<u>716</u>	..... Including auxiliary fluid
<u>717</u>	..... Including inlet characteristic (e.g., helix, spiral, volute, etc.)
<u>718</u>	..... Guide vane
<u>719</u>	..... Tangential
<u>720</u>	..... Including specific underflow outlet feature (e.g., apex discharge, etc.)
<u>721</u>	..... Including specific overflow outlet feature (e.g., adjustable vortex finder, shape, size, etc.)
<u>722</u>	.... Fluidically induced unidirectional swirling (e.g., axial, radial, tangential separation, free-vortex, etc.)
<u>723</u>	..... Plural extractions at diverse locations along flow path
<u>145</u>	.. Impetus and countercurrent
<u>146</u>	.. Feeding
<u>147</u>	... Conveyor
<u>148</u>	.... Centrifugal
<u>149</u>	.... Chute
<u>150</u>	.... Disk or cone
<u>151</u>	.... Stepped plane
<u>152</u>	... Cylinder internal
<u>153</u>	... Tossers
<u>154</u>	.. Current control
<u>155</u>	. Liquid
<u>156</u>	.. Horizontal current
<u>157</u>	.. Inclined current
<u>158</u>	.. Vertical current
<u>159</u>	... With agitation
<u>160</u>	... Expanding
<u>161</u>	.... With agitation
<u>162</u>	.. Floating
<u>163</u>	... Buoyant material
	.... Bubbles
<u>164</u>	..... Processes
<u>165</u>	..... Preferential
<u>166</u>	..... With modifying agents
<u>167</u>	..... Preferential
<u>168</u>	..... Apparatus
<u>169</u>	..... Agitating
<u>170</u>	..... Pneumatic
<u>171</u>	.... Oil
<u>172</u>	... Gravity liquid
<u>172.5</u>	.... Suspension
<u>173</u>	.... Water or aqueous solution
<u>174</u>	.... Metallic (i.e., amalgamators)
<u>175</u>	..... Processes
<u>176</u>	..... With chemical treatment
<u>177</u>	..... Bath
<u>178</u>	..... Ore
<u>179</u>	..... With electric treatment
<u>180</u>	..... Bath
<u>181</u>	..... Ore
<u>182</u>	..... With heat treatment
	.... Feeding and distributing
<u>183</u>	..... Submerging

<u>184</u>	..... Conveyor
<u>185</u>	..... Vacuum
<u>186</u>	..... With agitation
<u>187</u>	..... Baffles
<u>188</u>	..... Agitators
<u>189</u>	..... Surface
<u>190</u>	..... Impact
<u>191</u>	.... With rubbing
<u>192</u>	.... Feeding and discharging
<u>193</u>	..... Bath
<u>194</u>	.... Receptacles
<u>195</u>	..... Reciprocating
<u>196</u>	..... Chutes and tables
<u>197</u>	..... With agitators
<u>198</u>	..... Rotating
<u>199</u>	..... Centrifugal
<u>200</u>	..... With agitators
<u>201</u>	..... Stationary
<u>202</u>	..... Chutes and tables
<u>203</u>	..... With agitators
<u>204</u>	..... Reciprocating
<u>205</u>	..... Rotating
<u>206</u>	.... Riffles and traps
<u>207</u>	.. Surface film tension
<u>208</u>	.. Grading deposition
<u>209</u>	.. Chronometric
<u>210</u>	.. With deflection
<u>724</u>	.. Including circularly flowing liquid separation agent
<u>725</u>	.. Rotational hydrodynamic extraction (e.g., unidirectional hydrocyclone, vortical, whirlpool, etc.)
<u>726</u>	.... Including condition responsive control
<u>727</u>	.... Including oppositely directed axial flows around evacuated core (e.g., hydrocyclone having reverse free-vortexes formed, etc.)
<u>728</u>	..... Plural individual interconnected, oppositely directed axial flow producing separation phases (e.g., system arrangements, multiple hydrocyclones, etc.)
<u>729</u>	..... Serially connected
<u>730</u>	..... Including auxiliary fluid (e.g., air or gas core, dilution water, elutriation liquid, etc.)
<u>731</u>	..... Adjacent or subsequent to underflow discharge (e.g., dilution water, elutriation liquid, sedimentation chamber, sump, etc.)
<u>732</u>	..... Including specific overflow discharge feature (e.g., adjustable vortex finder, shape, size, etc.)
<u>733</u>	..... Including specific underflow discharge feature (e.g., apex construction, secondary vortex chamber, etc.)
<u>734</u>	..... Including specific inlet feature (e.g., shape, size, etc.)
	MAGNETIC
<u>212</u>	. Diamagnetic
<u>213</u>	. Paramagnetic
<u>214</u>	.. Processes
<u>215</u>	.. Special application
<u>216</u>	.. Multiple type
<u>217</u>	.. Reciprocating magnets
	.. Rotating magnets
<u>218</u>	... Belt
<u>219</u>	... Cylinder external
<u>220</u>	... Vertical axis
<u>221</u>	... Cylinder internal
<u>222</u>	... Disk
<u>223.1</u>	.. Stationary magnets

<u>223.2</u>	... Cylinder external
<u>224</u>	... Cylinder internal
<u>225</u>	.. With agitating or conveying
<u>226</u>	... Magnetic
<u>227</u>	.... Traveling field
<u>228</u>	.. Discharging
<u>229</u>	... Doffers
<u>230</u>	.... Magnetic
<u>231</u>	.. Feeding
<u>232</u>	... Fluid suspension
<u>233</u>	SIFTING
<u>234</u>	. Combined type
<u>235</u>	. Special applications
<u>236</u>	.. Distributing
<u>237</u>	.. Material testing
<u>238</u>	. With heating or cooling
<u>239</u>	. With weighting
<u>240</u>	. Feeding and discharging
<u>241</u>	.. Conveyors
<u>242</u>	.. Interconnected
<u>243</u>	. Feeding
<u>244</u>	.. Hoppers
<u>245</u>	... With agitators or conveyors
<u>246</u>	... Cut-offs and valves
<u>247</u>	.. Conveyors
<u>248</u>	... Receptacles
<u>249</u>	.... Ash pan
<u>250</u>	... Fluid
<u>251</u>	.. Reversible
<u>252</u>	.. Sifter movement
<u>253</u>	.. Selective
<u>254</u>	. Distributors or spreaders
<u>255</u>	. Discharging
<u>256</u>	.. Conveyors and valves
<u>257</u>	.. Conveyors
<u>258</u>	.. Valves
<u>259</u>	.. Receptacles
<u>260</u>	.. Tilting
<u>261</u>	. Conveying
<u>262</u>	.. Material forcing
<u>263</u>	.. Material positioning
<u>264</u>	... Guides
<u>265</u>	.... Imperforate sections
<u>266</u>	.... Superposed
<u>267</u>	.. Retarders
<u>268</u>	. With liquid treatment
<u>269</u>	.. Reciprocating sifters
	.. Rotating sifters
<u>270</u>	... Drum
<u>271</u>	... Disk
<u>272</u>	... Endless belt
<u>273</u>	.. Stationary sifters
<u>274</u>	. Concave and convex sifters
<u>275</u>	.. Reciprocating
<u>276</u>	... With agitators
<u>277</u>	.... Reciprocating
<u>278</u>	.... Rotating
<u>279</u>	.. Rotating
<u>280</u>	... With agitators

<u>281</u>	.. Stationary
<u>282</u>	... With reciprocating agitators
<u>283</u>	... With rotating agitators
	. Drum sifters
	.. Horizontal and inclined
<u>284</u>	... Feeding or dischargingd
<u>285</u>	.... Peripheral feed
<u>286</u>	..... Inlets
<u>287</u>	... Reciprocating and rotating
<u>288</u>	... Rotating
<u>289</u>	.... Multiple
<u>290</u>	..... Concentric
<u>291</u>	..... Nested
<u>292</u>	..... Superposed
<u>293</u>	.... With agitators and conveyors
<u>294</u>	..... Lifters and deflectors
<u>295</u>	..... Pneumatic
<u>296</u>	..... Rotating
<u>297</u>	..... Attached
<u>298</u>	..... Lifters
<u>299</u>	.... Lifters and beaters
<u>300</u>	... Stationary
	.. Vertical
<u>301</u>	... Reciprocating and rotating
<u>302</u>	... Reciprocating
<u>303</u>	... Rotating
<u>304</u>	.... With agitators
<u>305</u>	... Stationary
<u>306</u>	.... With agitators
<u>307</u>	. Endless belt sifters
<u>308</u>	.. With agitators
	. Plane sifters
	.. Horizontal and inclined
<u>309</u>	... Reciprocating and rotating
	... Reciprocating
	.... Distorting
<u>310</u>	.... Multiple
<u>311</u>	..... With pneumatic treatment
<u>312</u>	..... Alined
<u>313</u>	..... Stepped
<u>314</u>	..... Superposed
<u>315</u>	..... With intermediate conveyors
<u>316</u>	..... With dischargers
<u>317</u>	..... With pneumatic treatment
<u>318</u>	..... Attaching and adjusting
<u>319</u>	.... With agitators and conveyors
<u>320</u>	.... Pneumatic
<u>321</u>	.... Reciprocating
<u>322</u>	..... Unattached
<u>323</u>	..... Rotating
<u>324</u>	.... With horizontal and vertical shake
<u>325</u>	..... Gyratory
<u>326</u>	..... Lateral
<u>327</u>	..... With impact
<u>328</u>	..... Longitudinal
<u>329</u>	..... With impact
<u>330</u>	.... With horizontal shake
	..... Longitudinal and transverse
<u>331</u>	..... Gyratory
<u>332</u>	

<u>333</u>	..... Lateral
<u>334</u>	..... Impactive
<u>335</u>	..... Pivoted
<u>336</u>	..... With impact
<u>337</u>	..... Sliding
<u>338</u>	..... With impact
<u>339</u>	..... Swinging
<u>340</u>	..... With impact
<u>341</u>	.... Longitudinal
<u>342</u>	..... Sliding
<u>343</u>	..... With impact
<u>344</u>	..... Swinging
<u>345</u>	..... With impact
<u>346</u>	.... With vertical shake
<u>347</u>	.... Impactive
<u>348</u>	.... Pivoted
<u>349</u>	..... With impact
<u>350</u>	... Rotating
<u>351</u>	.... With agitators
<u>352</u>	... Stationary
<u>353</u>	.... Multiple
<u>354</u>	..... Stepped
<u>355</u>	..... Superposed
<u>356</u>	..... Zigzag
	.... With agitators
<u>357</u>	..... Reciprocating
<u>358</u>	..... Rotating
<u>359</u>	.. Vertical
<u>360</u>	... Reciprocating
<u>361</u>	... Rotating
<u>362</u>	. Spiral sifters
<u>363</u>	. Elements
<u>364</u>	.. Actuating
<u>365.1</u>	... Reciprocating
<u>365.2</u>	.... Cam and linkage
<u>365.3</u>	.... With cushioning
<u>365.4</u>	.... Differential motion
<u>366</u>	.... Gyration
<u>366.5</u>	..... Unbalanced weight
<u>367</u>	.... Unbalanced weight
<u>368</u>	.... Magnetic
<u>369</u>	... Rotating
<u>370</u>	.. Bins and casings
<u>371</u>	... Adapters
<u>372</u>	... Closures
<u>373</u>	... Compartments and receptacles
<u>374</u>	... Household
<u>375</u>	.... Chutes
<u>376</u>	.... Hods
<u>377</u>	.... Stoves and furnaces
<u>378</u>	... Venting
<u>379</u>	.. Clearers
<u>380</u>	... Fluid
<u>381</u>	... Jarring
<u>382</u>	.... Knockers
<u>383</u>	.... Whips
<u>384</u>	... Pressers
<u>385</u>	... Wipers
<u>386</u>	.... Brush

<u>387</u>	.... Reciprocating
<u>388</u>	..... Brush
<u>389</u>	.... Rotating
<u>390</u>	..... Brush
<u>391</u>	.. Mesh closures
<u>392</u>	.. Dress
<u>393</u>	... Bars
<u>394</u>	.... Adjusting
<u>395</u>	.... Attaching
<u>396</u>	.... Reciprocating
<u>397</u>	... Perforated sheet
<u>398</u>	.... Adjusting
<u>399</u>	.... Attaching
<u>400</u>	... Cords and wires
<u>401</u>	... Woven
<u>402</u>	.... Adjusting
<u>403</u>	.... Attaching
	.. Frames
<u>404</u>	... Adjusting
<u>405</u>	... Attaching
<u>406</u>	... Drum
<u>407</u>	.... Sectional
<u>408</u>	... Plane
<u>409</u>	.. Supports
<u>410</u>	... Axial
<u>411</u>	... Rim
<u>412</u>	... Framework
<u>413</u>	.... Adjustable
<u>414</u>	.... Knockdown
<u>415</u>	... Hangers and standards
<u>416</u>	... Levelers
<u>417</u>	... Manual
<u>418</u>	.... Scoop
<u>419</u>	.... Shovel
<u>420</u>	... Portable
<u>421</u>	.... Vehicles
<u>422</u>	STRATIFIERS
	. With liquid treatment
	.. Movable bed
	... Permeable
<u>423</u>	.... Constant current
<u>424</u>	..... Divergent or opposite travel
<u>425</u>	.... Pulsating current
<u>426</u>	..... Divergent or opposite travel
<u>427</u>	..... Parallel travel
<u>428</u>	... Belt
<u>429</u>	.... Divergent travel
<u>430</u>	.... Opposite travel
<u>431</u>	.... Reciprocating support
<u>432</u>	..... Divergent travel
<u>433</u>	..... Opposite travel
	... Chutes and tables
<u>434</u>	.... Spiral
<u>435</u>	.... Reciprocating-rotating
<u>436</u>	..... Divergent or opposite travel
<u>437</u>	.... Reciprocating
<u>438</u>	..... Annular
<u>439</u>	..... Divergent or opposite travel
<u>440</u>	..... With agitators

<u>441</u>	..... Divergent travel
<u>442</u>	..... Opposite travel
<u>443</u>	..... Parallel travel
<u>444</u>	.... Rotating
	.. Receptacles
<u>445</u>	... Reciprocating-rotating
<u>446</u>	... Reciprocating
<u>447</u>	.... Manual support
<u>448</u>	.... With agitators
<u>449</u>	..... Reciprocating
<u>450</u>	..... Rotating
	... Rotating
<u>451</u>	.... Horizontal or inclined axis
<u>452</u>	..... With agitators or conveyors
<u>453</u>	.... Vertical axis
	.. Stationary bed
	... Permeable
<u>454</u>	.... Constant current
<u>455</u>	.... Pulsating current
<u>456</u>	..... Divergent or opposite travel
<u>457</u>	..... Parallel travel
<u>458</u>	... Chutes and tables
<u>459</u>	.... Annular, circular or spiral
<u>460</u>	.... With divergent or opposite travel
	... Receptacles
<u>461</u>	.... With agitators or conveyors
<u>462</u>	..... Reciprocating
<u>463</u>	..... Rotating
<u>464</u>	..... Horizontal or inclined axis
<u>465</u>	..... Vertical axis
	. With pneumatic treatment
	.. Movable bed
	... Permeable
<u>466</u>	.... Constant current
<u>467</u>	..... Divergent or opposite travel
<u>468</u>	.... Pulsating current
<u>469</u>	..... Divergent or opposite travel
<u>470</u>	... Belts
<u>471</u>	... Chutes, tables, and receptacles
<u>472</u>	.... Divergent or opposite travel
<u>473</u>	... Drums
	.. Stationary bed
	... Permeable
<u>474</u>	.... With constant current
<u>475</u>	.... With pulsating current
<u>476</u>	..... Divergent or opposite travel
<u>477</u>	.. Chutes, tables, and receptacles
<u>478</u>	. Magnetic
	. Movable bed
<u>479</u>	.. Chutes, tables, and receptacles
<u>480</u>	... Divergent travel
<u>481</u>	... Opposite travel
<u>482</u>	.. Drums
<u>483</u>	. Stationary bed
<u>484</u>	. Elements
<u>485</u>	.. Beds
<u>486</u>	... Permeable
<u>487</u>	.. Cleaners
<u>488</u>	.. Feeding and discharging

<u>489</u>	... Automatic control
<u>490</u>	.. Discharging
<u>491</u>	... Automatic control
<u>492</u>	... Conveyers
<u>493</u>	... Dividers and skimmers
<u>494</u>	... Exits
<u>495</u>	.... With positively operated dischargers
<u>496</u>	.... Automatic control
<u>497</u>	.. Feeding
<u>498</u>	... Distributing
<u>499</u>	... Regulating
	.. Fluid supply
<u>500</u>	... Liquid
<u>501</u>	.... Circuit
<u>502</u>	... Pneumatic
<u>503</u>	.. Operating mechanism
<u>504</u>	... Reciprocating
<u>505</u>	... Rotating
<u>506</u>	.. Riffles
<u>507</u>	... Overhung
<u>508</u>	.. Supports

CROSS-REFERENCE ART COLLECTIONS

<u>900</u>	SORTING FLAT-TYPE MAIL
<u>901</u>	FROTH FLOTATION; COPPER
<u>902</u>	FROTH FLOTATION; PHOSPHATE
<u>903</u>	FEEDER CONVEYOR HAVING OPPOSED GRIPPERS
<u>904</u>	FEEDER CONVEYOR HOLDING ITEM BY MAGNETIC ATTRACTION
<u>905</u>	FEEDER CONVEYOR HOLDING ITEM BY SUCTION
<u>906</u>	PNEUMATIC OR LIQUID STREAM FEEDING ITEM
<u>907</u>	MAGNETIC FEEDER
<u>908</u>	ITEM FED BY FREE FALL
<u>909</u>	ITEM HOLDING FEED MAGAZINE INSERTABLE IN SORTING APPARATUS
<u>910</u>	FEED HOPPER
<u>911</u>	FEED MEANS SUPPORTING OR GUIDING ITEM MOVING UNDER INFLUENCE OF GRAVITY
<u>912</u>	ENDLESS FEED CONVEYOR WITH MEANS FOR HOLDING EACH ITEM INDIVIDUALLY
<u>913</u>	SCREW FEED CONVEYOR
<u>914</u>	DIVERSE SEQUENTIAL FEEDING STEPS
<u>915</u>	CENTRIFUGAL FEEDER
<u>916</u>	RECIPROCATING PUSHER FEEDING ITEM
<u>917</u>	ENDLESS BELT PUSHER FEEDING ITEM
<u>918</u>	SWINGING OR ROTATING PUSHER FEEDING ITEM
<u>919</u>	ROTARY FEED CONVEYOR
<u>920</u>	VIBRATORY FEED CONVEYOR
<u>921</u>	RECIPROCATING OR OSCILLATING FEED CONVEYOR
<u>922</u>	MISCELLANEOUS FEED CONVEYORS
<u>923</u>	FEED THROUGH INCLUDING AT LEAST ONE ENDLESS CONVEYOR
<u>924</u>	GRAVITY CONVEYOR MOVING ITEM FROM SEPARATING STATION
<u>925</u>	DRIVEN OR FLUID CONVEYOR MOVING ITEM FROM SEPARATING STATION
<u>926</u>	SILVERWARE SORTER
<u>927</u>	COP SORTER
<u>928</u>	CONTAINER CLOSURE SORTER
<u>929</u>	FASTENER SORTER
<u>930</u>	MUNICIPAL SOLID WASTE SORTING
<u>931</u>	MATERIALS OF CONSTRUCTION

<u>932</u>	FLUID APPLIED TO ITEMS
<u>933</u>	ACCUMULATION RECEIVING SEPARATED ITEMS
<u>934</u>	MOVING ITEMS TO SORTING MEANS IN SPACED RELATION LENGTHWISE OF FEED PATH
<u>935</u>	AMBULANT
<u>936</u>	PLURAL ITEMS TESTED AS GROUP
<u>937</u>	LAUNDRY SORTING
<u>938</u>	ILLUMINATING MEANS FACILITATING VISUAL INSPECTION
<u>939</u>	VIDEO SCANNING
<u>940</u>	NONCONDITION-RESPONSIVE SORTING BY CONTOUR
<u>941</u>	ITEM CARRYING BRIDGE RAISABLE TO EXPOSE DISCHARGE OPENING
<u>942</u>	OPERATOR SELECTS DESTINATION OF ITEM

FOREIGN ART COLLECTIONS**FOR000 CLASS-RELATED FOREIGN DOCUMENTS**

This file produced by USPTO - SIRA - Office of Patent Automation - ReferenceTools Project. Questions or comments relating to this file should be directed to [Patent Automation Feedback](#).

[Intranet Home](#) | [Index](#) | [Resources](#) | [Contacts](#) | [Internet](#) | [Search](#) | [Firewall](#) | [Web Services](#)

Last modified Tuesday, July 29, 2003 13:12:45

This data is current as of June/2003